TETRA TECH

June 25, 2012

Mr. Timothy Neal
On-Scene Coordinator
U.S. Environmental Protection Agency, Region 4
61 Forsyth Street, SW, 11th Floor
Atlanta, Georgia 30303

Subject: **Final Removal Assessment Letter Report**
Klouda Estate Site
Fort Valley, Peach County, Georgia
Contract Number (No.) EP-W-05-054
TDD No. TTEMI-05-003-0142

Dear Mr. Neal:

The Tetra Tech Superfund Technical Assessment and Response Team (START) is submitting this final removal assessment letter report summarizing activities conducted on April 11 and April 12, 2012 at the Klouda Estate site (KES) in Fort Valley, Peach County, Georgia. This report includes two enclosures. Enclosure 1 contains figures illustrating the site location and layout as well as on-site soil sampling and nearby potable well sampling locations. Enclosure 2 contains tables summarizing laboratory analytical results.

SITE BACKGROUND

The KES site is comprised of several parcels located in a mixed commercial and residential setting along Fullwood Road in Fort Valley, Peach County, Georgia (see Figure 1 in Enclosure 1). The geographic coordinates, as measured from the site entrance off of Fullwood Road, for the KES site are latitude 32.558660° north and longitude 83.840311° west. The property is currently owned by the Estate of Charles Joseph Klouda with Judith K. Abbott as the Executrix. The KES site is an active peach orchard containing an inactive air strip located on approximately 114 acres of land. The property has been used for agricultural purposes, primarily a peach orchard, since 1925. A portion of the property was used as an air strip for a crop dusting operation owned by Southern Crop Services from about 1955 to 1975. Reportedly, the pesticide tank inside the crop dusting plane that contained the pesticides was washed out after each use and the wash water was allowed to flow onto the ground near the location of an uncased groundwater well, which potentially contaminated the groundwater underlying and in the vicinity of the site.

SafEnvirons, Inc. (SafEnvirons), on behalf of the Klouda Estate, conducted Phase II soil sampling activities during three separate investigations: June 2005, December 2005, and February 2006. Results of the initial Phase II sampling activities identified a reportable release; subsequently, the KES site was listed on the Georgia Environmental Protection Division (GAEPD) Hazardous Site Inventory (HSI) on November 10, 2005 (HSI No. 10817). During the SafEnvirons Phase II investigation, 23 soil borings were advanced radially from the reported wash location and along the former runway at 100 foot intervals. Soil samples collected at and on the eastern side of the reported wash location contained the highest concentrations of pesticides including dieldrin, endrin, dichlorodiphenyldichloroethane (DDD), dichlorodiphenyldichloroethylene (DDE), dichlorodiphenyltrichloroethane (DDT), and

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toxaphene among others. Toxaphene was detected as high as 5,321 milligrams per kilogram (mg/kg), which is above the GAEPD Soil Notification Concentration limit of 10.66 mg/kg and above the EPA Removal Action Level (RAL) of 162 mg/kg. In 2011, SafEnvirons collected groundwater samples from four monitoring wells at the KES site. Toxaphene (up to 45 micrograms per liter [µg/L]), gamma-BHC (lindane) (0.3 µg/L), and endrin ketone (up to 6.5 µg/L) were detected above their respective EPA Maximum Contaminant Levels (MCL) of 3 µg/L, 0.2 µg/L, and 2 µg/L, respectively.

In January 2012, the GAEPD collected groundwater samples from nearby potable water wells. Lindane was detected in two potable water wells one the same property at concentrations of 0.22 µg/L and 0.25 µg/L, which are above the EPA MCL of 0.2 µg/L. As a result, residents at this property use bottled water for drinking.

REMOVAL ASSESSMENT ACTIVITIES

On April 11, 2012, Environmental Protection Agency (EPA) On-Scene Coordinator (OSC) Tim Neal, OSC Brian Englert, OSC Carter Williamson, and Tetra Tech START met on site to conduct removal assessment activities. The purposes of the removal assessment were to:

- Further characterize the lateral extent of contaminated soil
- Confirm the presence of site-related contaminants in previously sampled, nearby potable water wells
- Determine the presence or absence of site-related contaminants in potable water wells at nearby residences and a church that have not been sampled
- Determine whether a removal action and alternative source of potable water are warranted

During the reassessment, surface (0 to 12 inches below ground surface [bgs]) and subsurface (12 to 24 inches bgs) soil samples were collected from 6 soil sampling locations (see Figure 2 in Enclosure 1). The soil sampling locations were collected at the reported source location and at various discrete locations ranging from about 50 to 150 feet northwest, north, northeast, east, and south of the reported source location. All soil samples were collected in accordance with the EPA Region 4 SESD Field Branches Quality System and Technical Procedures (FBQSTP), *Soil Sampling*, SESDPROC-300-R2; and the Tetra Tech START final quality assurance project plan (QAPP) prepared for this removal assessment and dated April 5, 2012.

Additionally, Tetra Tech was tasked to collect potable well samples from five nearby residences and one church. One property, located at 46 Fullwood Road, housed both a residence and a business which contained two potable water wells. Each well supplied water to both the business and residence. It should be noted that the water lines from each well are combined prior to entering the residence/business and associated filtration unit. The residents at this location currently use bottled water for drinking.

A total of 10 samples including a duplicate were collected from 7 potable water wells. Three wells were connected to a filtration system; therefore, pre-filter and post-filter samples were collected at each of these locations. Because of the setup at 46 Fullwood Road, only one post-filtration was collected. Each well was allowed to purge for a minimum of 15 minutes. During the purge period, a minimum of three sets of field parameters including temperature, pH, specific conductivity, and turbidity were recorded to assess for aquifer stabilization. All potable well samples were collected in accordance with the EPA Region 4 SESD FBQSTP, *Potable Well Supply Sampling*, SESDPROC-305-R1; and the final QAPP dated April 5, 2012.

Tetra Tech START completed removal assessment activities on April 12, 2012 and demobilized the same day.

Soil and groundwater samples were submitted to a Tetra Tech procured laboratory, Gulf Coast Analytical Laboratories (GCAL) in Baton Rouge, Louisiana. Samples were analyzed for the following constituents:

- EPA Target Compound List (TCL) volatile organic compounds (VOCs) using EPA Test Methods for Evaluating Solid Waste, Physical/Chemical Methods (SW-846), Method 8260B
- TCL semivolatile organic compounds (SVOCs) using SW-846 Method 8270D
- TCL pesticide using SW-846 Method 8081B
- Organophosphorus (OP) pesticides using SW-846 Method 8141B
- Toxicity Characteristic Leaching Procedure (TCLP) toxaphene using SW-846 Methods 1311/8081B (one soil sample only)
- Resource Conservation and Recovery Act (RCRA) metals (including mercury) using the SW-846 Methods 6010C/7471B (soil)/7470A (water)

In addition, potable water samples were analyzed by the EPA Region 4 SESD laboratory for toxaphene congeners using SW-846 Method 8276.

DATA VALIDATION AND ANALYTICAL RESULTS

Tetra Tech START conducted a Stage 4 (full) validation of the GCAL analytical data package in accordance with the EPA Contract Laboratory Program (CLP) National Functional Guidelines (NFG) for Inorganic Superfund Data Review (January 2010) and the CLP NFG for Superfund Organic Methods Data Review (June 2008). To the extent possible, the laboratory reporting limits were sufficiently low to achieve the EPA MCL for potable water samples and EPA RAL for worker soil. For a limited number of contaminants, the laboratory reporting limits were higher than the MCLs for potable water. However, the potable water samples were reported down to the laboratory method detection limits (MDL), which are lower than the MCLs. For results reported as non-detect, there is no evidence that the contaminants were detected at or above their respective MDLs. Also, due to the high concentrations of pesticides or non-target analytes, some samples required dilution
Soil samples contained 4,4'-DDT at concentrations ranging from 1,820 micrograms per kilogram (µg/kg) (KES-04-SB) to 2,540,000 (KES-01-SF). 4,4'-DDT was detected at concentrations exceeding the EPA RAL for worker soil of 780,000 µg/kg at sample locations KES-01-SF, KES-01-SF-DUP, and KES-02-SF. Additionally, toxaphene was detected at concentrations ranging from 10,100 J (estimated) µg/kg (KES-04-SB) to 8,330,000 J (KES-02-SF). Toxaphene was detected at concentrations exceeding the EPA RAL for worker soil of 170,000 µg/kg at locations KES-01-SF, KES-01-SF-DUP, KES-01-SB, KES-02-SF, KES-02-SB, KES-03-SF, KES-04-SF, KES-05-SF, KES-05-SB, and KES-06-SF. No other constituents were detected at concentrations exceeding their respective EPA RALs for worker soil. Table 1 in Enclosure 2 contains a summary of the surface and subsurface soil sample results.

Several constituents were detected in potable well samples at concentrations exceeding their respective EPA RSLs. Bis(2-ethylhexyl)phthalate was detected above the RSL (0.071 µg/L) in sample KES2-128FULLWOOD-PW (1.88 J µg/L). Naphthalene was detected above the RSL (0.14 µg/L) in sample KES7-7820HWY96E-PW-POST (0.382 J µg/L). 4, 4'-DDD was detected above the RSL (0.28 µg/L) in sample KES4-46FULLWOOD-PWW-PRE (0.291 J µg/L) and in sample KES4-46FULLWOOD-PWW-PRE-DUP (0.379 J µg/L). Alpha-BHC was detected above the RSL (0.0062 µg/L) at concentrations ranging from 0.027 J in sample KES6-7834HWY96E-PW to 2.14 µg/L in sample KES4-

46FULLWOOD-PWW-PRE-DUP. Beta-BHC was detected above the RSL (0.022 µg/L) at concentrations ranging from 0.076 J µg/L in sample KES6-7834HWY96E-PW to 2.60 µg/L in sample KES4-46FULLWOOD-PWW-PRE-DUP. Dieldrin was detected above the RSL (0.0015 µg/L) in sample KES1-204FULLWOOD-PW (0.250 µg/L). Endrin ketone was detected above the RSL (1.7 µg/L) at concentrations ranging from 2.77 J- µg/L in sample KES1-204FULLWOOD-PW to 9.62 µg/L in sample KES4-46FULLWOOD-PWW-PRE-DUP. Lindane was detected above the RSL (0.036 µg/L) at concentrations ranging from 0.045 J µg/L in sample KES1-204FULLWOOD-PW to 0.254 J µg/L in sample KES4-46FULLWOOD-PWW-PRE-DUP. Toxaphene was detected above the RSL (0.013 µg/L) at concentrations ranging from 1.23 J in sample KES6-7834HWY96E-PW to 21.2 µg/L in sample KES4-46FULLWOOD-PWW-PRE.

Endrin ketone, toxaphene and lindane were detected in potable well samples at concentrations exceeding their respective EPA MCLs. Endrin ketone was detected above the MCL (2.0 µg/L) at concentrations ranging from 2.77 J- µg/L to 9.62 µg/L in the following samples:

- KES1-204FULLWOOD-PW (2.77 J- µg/L)
- KES2-128FULLWOOD-PW (3.60 µg/L)
- KES3-88FULLWOOD-PW (3.85 µg/L)
- KES4-46FULLWOOD-PWW-PRE (7.19 µg/L)
- KES4-46FULLWOOD-PWW-PRE-DUP (9.62 µg/L)

Toxaphene was detected above the MCL (3.0 µg/L) at concentrations ranging from 4.21 J µg/L to 21.2 µg/L in the following samples:

- KES1-204FULLWOOD-PW (6.38 J µg/L)
- KES2-128FULLWOOD-PW (10.7 J µg/L)
- KES3-88FULLWOOD-PW (15.9 J µg/L)
- KES4-46FULLWOOD-PWW-PRE (21.2 µg/L)
- KES4-46FULLWOOD-PWW-PRE-DUP (17.7 µg/L)
- KES4-46FULLWOOD-PWW-POST (4.56 J µg/L)
- KES5-46FULLWOOD-PWE-PRE (4.21 J µg/L)

Lindane was detected at a concentration exceeding the MCL (0.2 µg/L) in sample KES4-46FULLWOOD-PWW-PRE-DUP (0.254 J µg/L). The lindane concentration detected in the paired potable water sample was within the quality control limits for duplicate samples; however, its concentration was not above the MCL.

Alpha-BHC and toxaphene were detected in potable well samples at concentrations exceeding their respective EPA RALs. Alpha-BHC was detected above the RAL (1.1 µg/L) in the following samples:

- KES4-46FULLWOOD-PWW-PRE (1.65 µg/L)
- KES4-46FULLWOOD-PWW-PRE-DUP (2.14 µg/L)

Toxaphene was detected above the RAL (6.1 µg/L) at concentrations ranging from 6.38 J µg/L to 21.2 µg/L in the following samples:

- KES1-204FULLWOOD-PW (6.38 J µg/L)
- KES2-128FULLWOOD-PW (10.7 J µg/L)
- KES3-88FULLWOOD-PW (15.9 J µg/L)
- KES4-46FULLWOOD-PWW-PRE (21.2 µg/L)
- KES4-46FULLWOOD-PWW-PRE-DUP (17.7 µg/L)

Table 2 in Enclosure 2 contains a summary of the potable water well sample results.

The potable water samples were also analyzed by the EPA Region 4 SESD laboratory for toxaphene congeners using SW-846 Method 8276. The SESD Analytical Support Branch (ASB) performed the analysis and verified the data in accordance with the ASB Laboratory Operations and Quality Assurance Manual. All potable well samples contained low concentrations of toxaphene congeners (See Table 2 in Enclosure 2). MCLs have not been established for toxaphene congeners
If you have any questions or need additional copies of this final removal assessment letter report, please contact me, Chris Jones, at (678) 775-3081 or Sandra Harrigan at (678) 775-3088.

Sincerely,

Christopher Jones
START III Site Manager

Andrew F. Johnson
START III Program Manager

Enclosures (2)

cc: Katrina Jones, EPA Project Officer
Brian Englert, EPA On-Scene Coordinator
Angel Reed, START III Document Control Coordinator

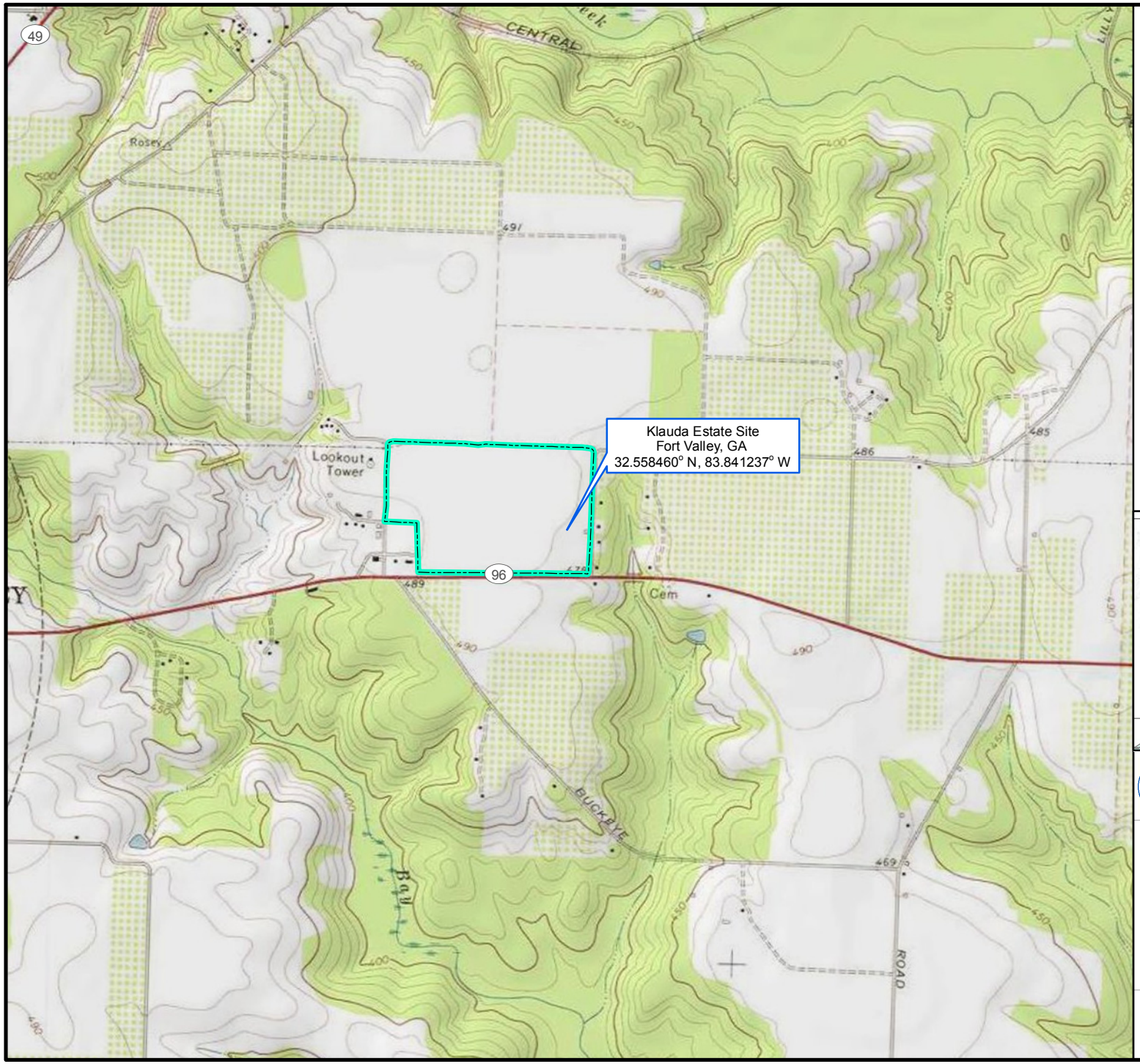
ENCLOSURE 1

FIGURES

(Two Pages)

FIGURE

1 SITE LOCATION
2 SAMPLING LOCATIONS



Legend

Approximate Property Boundary

N
W E
S

0 1,000 2,000

Feet

1:24,000

Map Source:
USGS 7.5 Minute Topographic Quadrangle Map:
Fort Valley East, GA 1981

United States Environmental Protection Agency Region 4

FIGURE 1

Site Location

TDD Name: Klouda Estate Site

TDD No.: TTEMI-05-003-0142

City:	County:	State:
Fort Valley	Peach	Georgia

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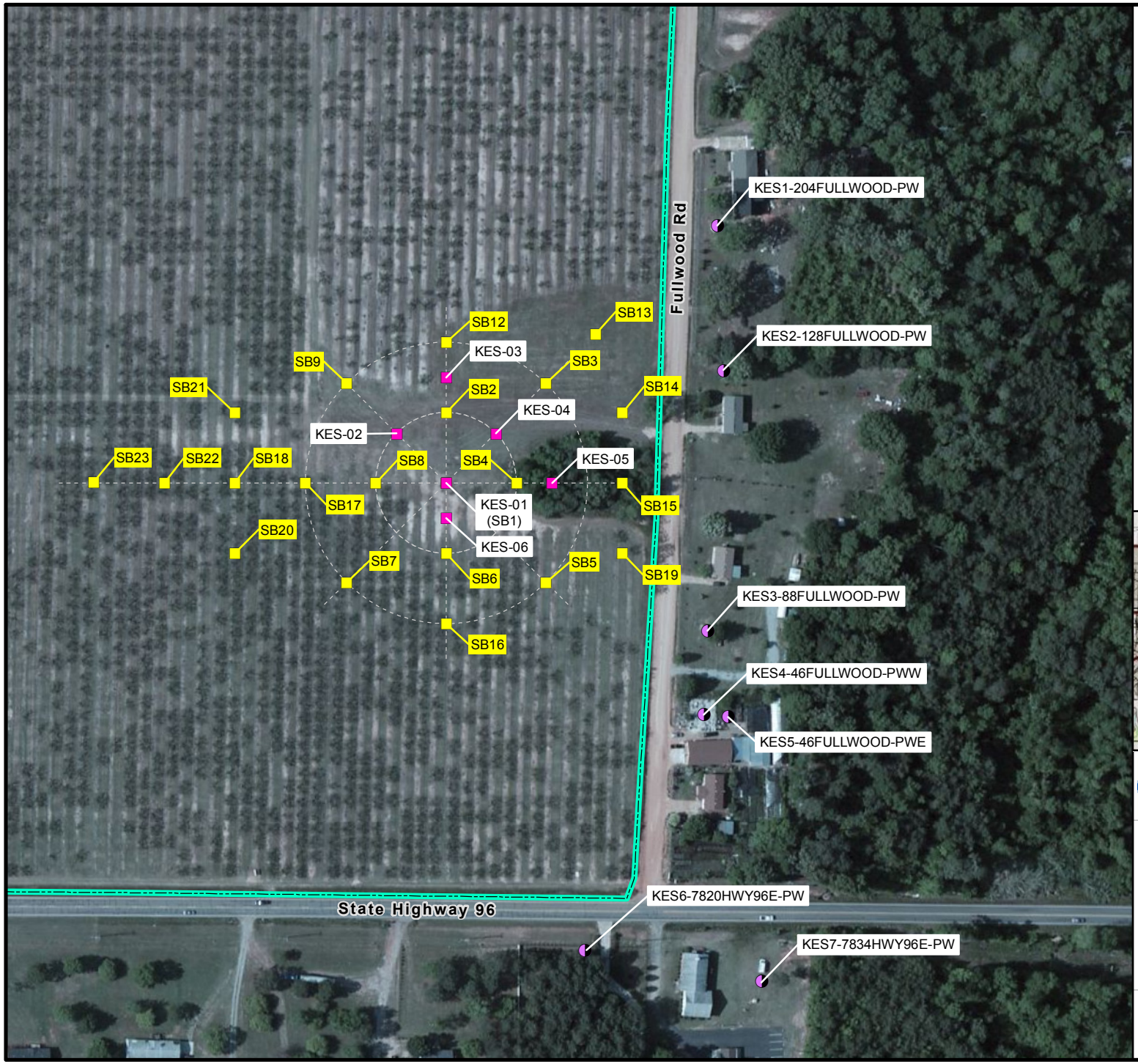
Date: 4/4/2012
Analyst: Dale Von Busch

File: C:\GIS_Workspace\TTEMI-05-003-0142_Klouda_Estate_Site\GIS\MXDs\Site_Location\KLOUDA SITE LOC 8.5x11 4-04-12.mxd



Legend

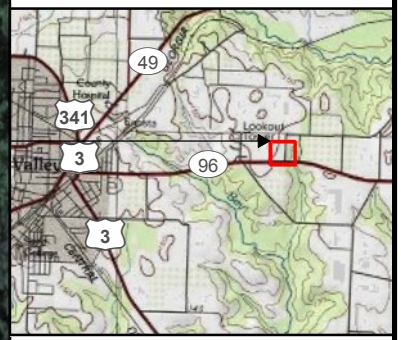
- Proposed Surface and Subsurface Soil Sample
- 2005-2006 Phase II ESA Soil Sample Location
- Potable Well Sample
- Approximate Property Boundary

N
W E
S

0 100 200
Feet
1:2,400

Notes:
E - East
ESA - Environmental Site Assessment
HWY - Highway
KES - Klouda Estate Site
PW - Potable well
W - West

Map Source:
USGS 7.5 Minute Topographic Quadrangle Map:
Fort Valley East, GA 1981



United States Environmental Protection Agency Region 4

FIGURE 2

Sampling Locations

TDD Name: Klouda Estate Site

TDD No.: TTEMI-05-003-0142

City:	County:	State:
Fort Valley	Peach	Georgia

TETRA TECH

Date: 4/4/2012
Analyst: Dale Von Busch

File: C:\GIS_Workspace\TTEMI-05-003-0142_Klouda_Estate_Site\GIS\MXDs\Proposed Sample Locations\KLOUDA PROPOS SMPLS 8.5x11 4-04-12.mxd

ENCLOSURE 2

ANALYTICAL DATA SUMMARY TABLES

(Eight Pages)

TABLE 1
ANALYTICAL RESULTS FOR SOIL SAMPLES

Analyte	EPA RAL Worker Soil	KES-01-SF	KES-01-SF-DUP	KES-01-SB	KES-02-SF	KES-02-SB	KES-03-SF	KES-03-SB
Volatile Organic Compounds (µg/kg)								
2-Butanone	650,000,000	9.59 U	9.24 U	6.6 J	8.58 U	3.43 J	6.08 J	5.62 J
Acetone	2,100,000,000	6.66 J	8.29 J	37.3	5.09 J	17.9	57.2	49.9
Methyl Acetate	NL	4.79 U	4.62 U	4.56 U	4.29 U	4.28 U	5.29 U	4.85 U
Semivolatile Organic Compounds (µg/kg)								
Anthracene	550,000,000	353 U	3,480 U	359 U	24.3 J	368 U	400 U	361 U
Benzo(a)anthracene	230,000	353 U	3,480 U	359 U	346 U	368 U	400 U	361 U
Benzo(a)pyrene	2,300	353 U	3,480 U	359 U	25.1 J	368 U	400 U	361 U
Benzo(b)fluoranthene	230,000	353 U	3,480 U	359 U	346 U	368 U	400 U	361 U
Benzo(g,h,i)perylene	NL	353 U	3,480 U	359 U	51.2 J	368 U	400 U	361 U
Benzo(k)fluoranthene	2,300,000	353 U	3,480 U	359 U	346 U	368 U	400 U	361 U
Carbazole	NL	353 U	3,480 U	359 U	346 U	368 U	400 U	361 U
Chrysene	23,000,000	353 U	3,480 U	359 U	346 U	368 U	400 U	361 U
Dibenzo(a,h)anthracene	23,000	353 U	3,480 U	359 U	346 U	368 U	400 U	361 U
Fluoranthene	73,000,000	353 U	3,480 U	359 U	346 U	368 U	400 U	361 U
Fluorene	73,000,000	353 U	3,480 U	359 U	346 U	368 U	400 U	361 U
Indeno(1,2,3-cd)pyrene	230,000	353 U	3,480 U	359 U	40.3 J	368 U	400 U	361 U
Phenanthrene	NL	353 U	3,480 U	359 U	346 U	368 U	400 U	361 U
Pyrene	55,000,000	353 U	355 J	359 U	346 U	368 U	400 U	361 U
Organophosphorus Pesticides (µg/kg)		ND	ND	ND	ND	ND	ND	ND
Chlorinated Pesticides (µg/kg)								
4,4'-DDD	800,000	214,000 U	209,000 U	8,740 U	207,000 U	8,820 U	11,100	437 U
4,4'-DDE	560,000[a]	103,000 J	115,000 J	3,310 J	115,000 J	6,390 J	9,210	972
4,4'-DDT	780,000	**2,540,000**	**2,430,000**	66,200	**2,130,000**	108,000	47,900	3,070
beta-BHC	NL	214,000 U	209,000 U	8,740 U	207,000 U	8,820 U	4,850 U	437 U
Endosulfan I	12,000,000[b]	107,000 U	104,000 U	4,370 U	45,200 J	4,070 J	2,420 U	219 U
Endosulfan II	12,000,000[b]	214,000 U	209,000 U	8,740 U	207,000 U	6,110 J	4,850 U	437 U
Endosulfan sulfate	12,000,000[b]	214,000 U	209,000 U	954 J	207,000 U	6,310 J	4,850 U	437 U
Endrin aldehyde	620,000[c]	242,000 J	238,000	5,410 J	207,000 U	14,000 J	8,330 J	1,150 J
Endrin ketone	620,000[c]	217,000 J	217,000	3,430 J	207,000 U	8,820 U	4,850 U	209 J
Toxaphene	170,000	**8,000,000 J**	**7,600,000 J**	**210,000 J**	**8,330,000 J**	**456,000**	**235,000 J**	31,500 J
Metals (mg/kg)								
Arsenic	180[d]	12.2	12.0	0.79 J	10.0	3.45	3.62	2.71
Barium	680,000	34.4	29.2	41.3	19.0	32.5	20.8	38
Cadmium	2,700[e]	0.43 U	0.42 U	0.44 U	0.42 U	0.45 U	0.49 U	0.44 U
Chromium	5,100,000[f]	8.67	7.77	12.5	10.6	20.7	7.3	13.6
Lead	800[g]	24.2	24.0	8.82	18.8	14.7	21.7	11.2
Mercury	110[h]	0.034 J+	0.049	0.027 J+	0.013 U	0.040 J+	0.018 J+	0.013 U
Selenium	17,000	0.58 J	0.45 J	0.48 J	0.39 J	0.85 J	3.44 U	0.72 J

TABLE 1
ANALYTICAL RESULTS FOR SOIL SAMPLES

Analyte	EPA RAL Worker Soil	KES-04-SF	KES-04-SB	KES-05-SF	KES-05-SB	KES-06-SF	KES-06-SB
Volatile Organic Compounds (µg/kg)							
2-Butanone	650,000,000	2.48 J	2.47 J	3.46 J	4.42 J	2.8 J	5 J
Acetone	2,100,000,000	26	28	32.3	29.8	22.5	57.1
Methyl Acetate	NL	4.45 U	5.25 U	5.82 U	22	5.06 U	9.25 U
Semivolatile Organic Compounds (µg/kg)							
Anthracene	550,000,000	339 U	355 U	1,100 J	16.3 J	345 U	370 U
Benzo(a)anthracene	230,000	339 U	355 U	3,040 J-	63.7 J	345 U	370 U
Benzo(a)pyrene	2,300	339 U	355 U	1,730 J-	53.7 J	345 U	370 U
Benzo(b)fluoranthene	230,000	339 U	355 U	2,160 J-	115 J	345 U	370 U
Benzo(g,h,i)perylene	NL	339 U	355 U	879 J	47.3 J	345 U	370 U
Benzo(k)fluoranthene	2,300,000	339 U	355 U	1,570 J-	43.5 J	345 U	370 U
Carbazole	NL	339 U	355 U	607 J	340 U	345 U	370 U
Chrysene	23,000,000	339 U	355 U	3,010 J-	87.7 J	345 U	370 U
Dibenzo(a,h)anthracene	23,000	339 U	355 U	334 J	18.5 J	345 U	370 U
Fluoranthene	73,000,000	339 U	355 U	5,720 J-	78.6 J	345 U	370 U
Fluorene	73,000,000	339 U	355 U	163 J	340 U	345 U	370 U
Indeno(1,2,3-cd)pyrene	230,000	339 U	355 U	816 J	39.6 J	345 U	370 U
Phenanthrene	NL	339 U	355 U	3,620 J-	340 U	345 U	370 U
Pyrene	55,000,000	339 U	355 U	4,200 J-	147 J	345 U	370 U
Organophosphorus Pesticides (µg/kg)		ND	ND	ND	ND	ND	ND
Chlorinated Pesticides (µg/kg)							
4,4'-DDD	800,000	4,130 U	216 U	43,800 U	20,800 U	84,200 U	2,230 U
4,4'-DDE	560,000[a]	11,300	472	43,000 J	21,800	61,100 J	2,040 J
4,4'-DDT	780,000	52,500	1,820	442,000	193,000	664,000	20,000
beta-BHC	NL	4,130 U	56.6 J	43,800 U	20,800 U	84,200 U	2,230 U
Endosulfan I	12,000,000[b]	2,070 U	108 U	21,900 U	10,400 U	42,100 U	1,120 U
Endosulfan II	12,000,000[b]	4,130 U	216 U	43,800 U	20,800 U	84,200 U	2,230 U
Endosulfan sulfate	12,000,000[b]	4,130 U	216 U	43,800 U	20,800 U	84,200 U	2,230 U
Endrin aldehyde	620,000[c]	4,930	286 J	56,700 J	19,300 J	84,200 U	2,270 J
Endrin ketone	620,000[c]	1,840 J	610	17,200 J	3,260 J	84,200 U	409 J
Toxaphene	170,000	**221,000**	10,100 J	**1,620,000 J**	**606,000 J**	**2,810,000 J**	67,700 J
Metals (mg/kg)							
Arsenic	180[e]	2.90	0.41 J	29.1 J+	11.4	16.0	1.71
Barium	680,000	18.0	30.5	62.1	31.6	23.7	61.2
Cadmium	2,700[f]	0.42 U	0.44 U	0.78	0.25 J	0.42 U	0.45 U
Chromium	5,100,000[g]	12.6	12	7.35	6.52	6.64	13.9
Lead	800[h]	12.9	8.28	55.6	60.8	16.2	10.6
Mercury	110[i]	0.012 U	0.031 J+	0.11	0.072	0.040 J+	0.031 J+
Selenium	17,000	0.40 J	0.32 J	1.54 U	0.43 J	0.48 J	1.08 J

Analyte	40 CFR 261	KES-01-TCLP
TCLP Toxaphene (mg/L)	0.5	0.305 J

TABLE 1
ANALYTICAL RESULTS FOR SOIL SAMPLES

Notes:

40 CFR 261	Code of Federal Regulations, Part 261 - Identification and Listing of Hazardous Waste
[a]	Value listed is for DDE, p,p'-
[b]	Value listed is for endosulfan.
[c]	Value listed is for endrin.
[d]	Value listed is for arsenic, inorganic.
[e]	Value listed is for cadmium (diet).
[f]	Value listed is for insoluble salts of Chromium III
[g]	Value listed is for lead and compounds.
[h]	Value listed is for mercury (elemental).
DUP	Duplicate sample
EPA	U.S. Environmental Protection Agency
J	The identification of the analyte is acceptable; the reported value is an estimate.
J+	The identification of the analyte is acceptable; the reported value is an estimate with a potential high bias.
J-	The identification of the analyte is acceptable; the reported value is an estimate with a potential low bias.
KES	Klouda Estate Site
µg/kg	Micrograms per kilogram
mg/kg	Milligrams per kilogram
mg/L	Milligrams per liter
NL	Value not listed in EPA Removal Action Level values for worker soil, dated September 2010.
RAL	EPA Removal Action Level values for worker soil, dated September 2010.
SB	Subsurface soil
SF	Surface soil
TCLP	Toxicity Characteristic Leaching Procedure
U	The analyte was not detected at or above the minimum or method reporting limit.
BOLD	Value exceed those listed in EPA Removal Action Level values for worker soil, dated September 2010.

TABLE 2
ANALYTICAL RESULTS FOR GROUNDWATER SAMPLES

Analyte	EPA Tap Water RAL	EPA Tap Water RSL	Maximum Contaminant Level	KES1-PW	KES2-PW	KES3-PW
Volatile Organic Compounds (µg/L)				ND	ND	ND
Semivolatile Organic Compounds (µg/L)						
Bis(2-ethylhexyl)phthalate	480	0.071	6.0	10.5 U	**1.88 J**	11.1 U
Fluorene	3,500	220	NL	10.5 U	0.863 J	11.1 U
Naphthalene	14	0.14	NL	10.5 U	10.8 U	11.1 U
Organophosphorus Pesticides (µg/L)				ND	ND	ND
Chlorinated Pesticides (µg/L)						
4,4'-DDD	28	0.28	NL	0.111 U	0.113	0.223 J
4,4'-DDE	20	0.20	NL	0.111 U	0.111 U	0.103 U
alpha-BHC	1.1	0.0062	NL	**0.094**	**0.320 J**	**0.990 J**
beta-BHC	3.7	0.022	NL	**0.300**	**0.487 J**	**0.930 J**
delta-BHC	NL	NL	NL	0.074 J	0.690 J	0.410 J
Dieldrin	0.42	0.0015	NL	**0.250**	0.111 U	0.103 U
Endosulfan I	520[a]	78[a]	NL	0.056 U	0.056 U	0.052 U
Endosulfan II	520[a]	78[a]	NL	0.096 J	0.140 J	0.103 U
Endrin aldehyde	26[b]	1.7[b]	2.0[b]	0.074 J	0.106 J	0.103 U
Endrin ketone	26[b]	1.7[b]	2.0[b]	**2.77 J-**	**3.60**	**3.85**
gamma-BHC (Lindane)	6.1[c]	0.036[c]	0.20[c]	**0.045 J**	**0.100**	**0.142**
Toxaphene	6.1	0.013	3.0	**6.38 J**	**10.7 J**	**15.9 J**
Toxaphene Congeners (µg/L)						
Hp-Sed	NL	NL	NL	0.035	0.044	0.044
Hx-Sed	NL	NL	NL	0.030	0.046	0.060
Toxaphene, Parlar 26	NL	NL	NL	0.0069	0.011	0.0067
Toxaphene, Parlar 40	NL	NL	NL	0.019	0.024	0.018
Toxaphene, Parlar 41	NL	NL	NL	0.014	0.016	0.013
Toxaphene, Parlar 44	NL	NL	NL	0.0021	0.0025	0.00070 J
Toxaphene, Parlar 50	NL	NL	NL	0.012	0.016	0.011
Toxaphene, Parlar 62	NL	NL	NL	0.022	0.027	0.019
Metals (mg/L)						
Barium	17,000	2.9	2.0	0.022 J	0.024 J	0.015 J
Lead[l]	NL	NL	0.015[d]	0.010 U	0.0043 J	0.010 U
Mercury	1.7[e]	0.00063[e]	0.002[e]	0.00020 U	0.00020 U	0.00020 U

TABLE 2
ANALYTICAL RESULTS FOR GROUNDWATER SAMPLES

Analyte	EPA Tap Water RAL	EPA Tap Water RSL	Maximum Contaminant Level	KES4-PWW-PRE	KES4-PWW-PRE-DUP	KES4-PWW-POST
Volatile Organic Compounds (µg/L)				ND	ND	ND
Semivolatile Organic Compounds (µg/L)						
Bis(2-ethylhexyl)phthalate	480	0.071	6.0	11.4 U	10.5 U	11.2 U
Fluorene	3,500	220	NL	11.4 U	10.5 U	11.2 U
Naphthalene	14	0.14	NL	11.4 U	10.5 U	11.2 U
Organophosphorus Pesticides (µg/L)				ND	ND	ND
Chlorinated Pesticides (µg/L)						
4,4'-DDD	28	0.28	NL	**0.291 J**	**0.379 J**	0.059 J
4,4'-DDE	20	0.20	NL	0.111 U	0.112 U	0.114 U
alpha-BHC	1.1	0.0062	NL	**1.65**	**2.14**	**0.300**
beta-BHC	3.7	0.022	NL	**2.10**	**2.60**	**0.180**
delta-BHC	NL	NL	NL	0.610	0.890	0.110 J
Dieldrin	0.42	0.0015	NL	0.111 U	0.112 U	0.114 U
Endosulfan I	520[a]	78[a]	NL	0.056 U	0.056 U	0.092
Endosulfan II	520[a]	78[a]	NL	0.111 U	0.112 U	0.114 U
Endrin aldehyde	26[b]	1.7[b]	2.0[b]	0.210	0.270	0.114 U
Endrin ketone	26[b]	1.7[b]	2.0[b]	**7.19**	**9.62**	0.850
gamma-BHC (Lindane)	6.1[c]	0.036[c]	0.20[c]	**0.195 J**	**0.254 J**	**0.147**
Toxaphene	6.1	0.013	3.0	**21.2**	**17.7**	**4.56 J**
Toxaphene Congeners (µg/L)						
Hp-Sed	NL	NL	NL	0.0065	0.080	0.078
Hx-Sed	NL	NL	NL	0.012	0.12	0.11
Toxaphene, Parlar 26	NL	NL	NL	0.0011 U	0.011	0.011
Toxaphene, Parlar 40	NL	NL	NL	0.0012	0.031	0.030
Toxaphene, Parlar 41	NL	NL	NL	0.0017	0.025	0.025
Toxaphene, Parlar 44	NL	NL	NL	0.0011 U	0.0014	0.0013
Toxaphene, Parlar 50	NL	NL	NL	0.00031 J	0.017	0.017
Toxaphene, Parlar 62	NL	NL	NL	0.0035 J	0.025	0.027
Metals (mg/L)						
Barium	17,000	2.9	2.0	0.019 J	0.018 J	0.0037 J
Lead[1]	NL	NL	0.015[d]	0.010 U	0.010 U	0.010 U
Mercury	1.7[e]	0.00063[e]	0.002[e]	0.00024 J+	0.00021 J+	0.00020 U

TABLE 2
ANALYTICAL RESULTS FOR GROUNDWATER SAMPLES

Analyte	EPA Tap Water RAL	EPA Tap Water RSL	Maximum Contaminant Level	KES5--PWE-PRE	KES6-PW
Volatile Organic Compounds (µg/L)				ND	ND
Semivolatile Organic Compounds (µg/L)					
Bis(2-ethylhexyl)phthalate	480	0.071	6.0	11.6 U	11.2 U
Fluorene	3,500	220	NL	11.6 U	11.2 U
Naphthalene	14	0.14	NL	11.6 U	11.2 U
Organophosphorus Pesticides (µg/L)				ND	ND
Chlorinated Pesticides (µg/L)					
4,4'-DDD	28	0.28	NL	0.044 J	0.014 J
4,4'-DDE	20	0.20	NL	0.109 U	0.105 U
alpha-BHC	1.1	0.0062	NL	**0.250**	**0.027 J**
beta-BHC	3.7	0.022	NL	**0.122**	**0.076 J**
delta-BHC	NL	NL	NL	0.086	0.014 J
Dieldrin	0.42	0.0015	NL	0.109 U	0.105 U
Endosulfan I	520[a]	78[a]	NL	0.073 J	0.053 U
Endosulfan II	520[a]	78[a]	NL	0.034 J	0.105 U
Endrin aldehyde	26[b]	1.7[b]	2.0[b]	0.109 U	0.105 U
Endrin ketone	26[b]	1.7[b]	2.0[b]	0.679	0.230
gamma-BHC (Lindane)	6.1[c]	0.036[c]	0.20[c]	**0.130**	0.023 J
Toxaphene	6.1	0.013	3.0	**4.21 J**	**1.23 J**
Toxaphene Congeners (µg/L)					
Hp-Sed	NL	NL	NL	0.0071	0.0068
Hx-Sed	NL	NL	NL	0.0087	0.0060
Toxaphene, Parlar 26	NL	NL	NL	0.0011	0.0012
Toxaphene, Parlar 40	NL	NL	NL	0.0029	0.0028
Toxaphene, Parlar 41	NL	NL	NL	0.0023	0.0021
Toxaphene, Parlar 44	NL	NL	NL	0.0011 U	0.0010 U
Toxaphene, Parlar 50	NL	NL	NL	0.0018	0.0018
Toxaphene, Parlar 62	NL	NL	NL	0.0029 J	0.0052 U
Metals (mg/L)					
Barium	17,000	2.9	2.0	0.0037 J	0.0059 J
Lead[1]	NL	NL	0.015[d]	0.010 U	0.012
Mercury	1.7[e]	0.00063[e]	0.002[e]	0.00020 U	0.00020 U

TABLE 2
ANALYTICAL RESULTS FOR GROUNDWATER SAMPLES

Analyte	EPA Tap Water RAL	EPA Tap Water RSL	Maximum Contaminant Level	KES7-PW-PRE	KES7-PW-POST
Volatile Organic Compounds (µg/L)				ND	ND
Semivolatile Organic Compounds (µg/L)					
Bis(2-ethylhexyl)phthalate	480	0.071	6.0	11.5 U	11.4 U
Fluorene	3,500	220	NL	11.5 U	11.4 U
Naphthalene	14	0.14	NL	11.5 U	**0.382 J**
Organophosphorus Pesticides (µg/L)				ND	ND
Chlorinated Pesticides (µg/L)					
4,4'-DDD	28	0.28	NL	0.108 U	0.106 U
4,4'-DDE	20	0.20	NL	0.014 J	0.106 U
alpha-BHC	1.1	0.0062	NL	0.054 U	0.053 U
beta-BHC	3.7	0.022	NL	0.054 U	0.053 U
delta-BHC	NL	NL	NL	0.054 U	0.053 U
Dieldrin	0.42	0.0015	NL	0.108 U	0.106 U
Endosulfan I	520[a]	78[a]	NL	0.054 U	0.053 U
Endosulfan II	520[a]	78[a]	NL	0.108 U	0.106 U
Endrin aldehyde	26[b]	1.7[b]	2.0[b]	0.014 J	0.106 U
Endrin ketone	26[b]	1.7[b]	2.0[b]	0.100 J	0.098 J
gamma-BHC (Lindane)	6.1[c]	0.036[c]	0.20[c]	0.054 U	0.053 U
Toxaphene	6.1	0.013	3.0	5.38 U	5.32 U
Toxaphene Congeners (µg/L)					
Hp-Sed	NL	NL	NL	0.00068 J	0.0056
Hx-Sed	NL	NL	NL	0.0015	0.0038
Toxaphene, Parlar 26	NL	NL	NL	0.0011 U	0.0010
Toxaphene, Parlar 40	NL	NL	NL	0.00037 J	0.0023
Toxaphene, Parlar 41	NL	NL	NL	0.0011 U	0.0017
Toxaphene, Parlar 44	NL	NL	NL	0.0011 U	0.0010 U
Toxaphene, Parlar 50	NL	NL	NL	0.0011 U	0.0014
Toxaphene, Parlar 62	NL	NL	NL	0.0053 U	0.0052 U
Metals (mg/L)					
Barium	17,000	2.9	2.0	0.0076 J	0.0078 J
Lead[1]	NL	NL	0.015[d]	0.010 U	0.0032 J
Mercury	1.7[e]	0.00063[e]	0.002[e]	0.00020 U	0.00020 U

TABLE 2
ANALYTICAL RESULTS FOR GROUNDWATER SAMPLES

Notes:

[a]	Value listed is for endosulfan.
[b]	Value listed is for endrin.
[c]	Value listed is for hexachlorocyclohexane, gamma- (Lindane).
[d]	Value listed is for lead and compounds.
[e]	Value listed is for mercury (elemental).
[1]	Lead is regulated by a Treatment Technique that requires systems to control the corrosiveness of their water. If more than 10 percent of tap water samples exceed the action level, water systems must take additional steps. For lead, the action level is 0.015 mg/L.
DUP	Duplicate sample
EPA	Environmental Protection Agency
J	The identification of the analyte is acceptable; the reported value is an estimate.
J+	The identification of the analyte is acceptable; the reported value is an estimate with a potential high bias.
J-	The identification of the analyte is acceptable; the reported value is an estimate with a potential low bias.
KES	Klouda Estate Site
µg/L	Micrograms per liter
mg/L	Milligrams per liter
NL	Value not listed in EPA Maximum Contaminant Level values, dated May 2009 or as tap water RSLs, dated April 2012.
POST	Sample collected before the filter in place.
PRE	Sample collected after the filter in place.
PW	Potable Water
PWE	Potable Water - East
PWW	Potable Water - West
RAL	EPA Removal Action Levels for tap water, dated September 2010.
RSL	EPA Regional Screening Levels for tap water, dated April 2012.
U	The analyte was not detected at or above the minimum or method reporting limit.
RED	Value exceed those listed as tap water RALs, dated September 2010.
RED	Value exceed those listed ias tap water RALs, dated September 2010 and Maximum Contaminant Level values, dated May 2009
BOLD	Value exceed those listed as tap water RSLs, dated April 2012.
BOLD	Value exceed those listed in Maximum Contaminant Level values, dated May 2009 and the tap water RSL, dated April 2012.